

# CrystEngComm

A journal at the forefront of the design and understanding of solid-state and crystalline materials

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### Cover

See Vedichi Madhu et al., pp. 2489-2512. Image reproduced by permission of Vedichi Madhu from *CrystEngComm*, 2026, 28, 2489.

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## EDITORIAL

2483

### The crystal engineering foundations of the MOF Nobel Prize

Nathaniel L. Rosi, Shuhei Furukawa, Stuart R. Batten and Christian J. Doonan

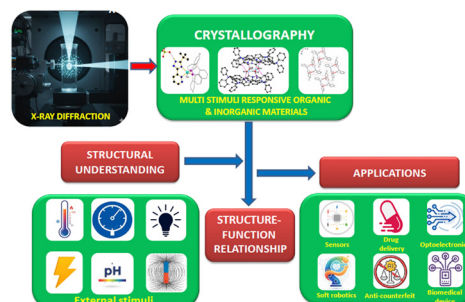


## HIGHLIGHTS

2489

### Recent advancements in multi-stimuli-responsive organic and inorganic materials: crystallographic insights into structure–function relationships

Jayaraman Pitchaimani\* and Vedichi Madhu\*



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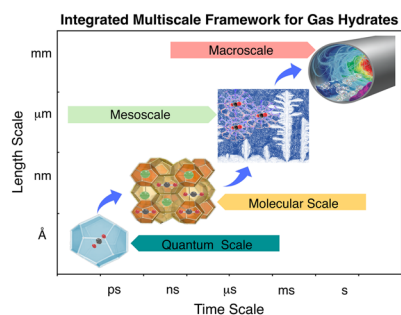


## HIGHLIGHTS

2513

### Multiscale simulations of gas hydrates: from molecular mechanisms to mesoscale growth and macroscale flow and production predictions

Miguel Pineda,\* Anh Phan,\* Michail Stamatakis and Alberto Striolo

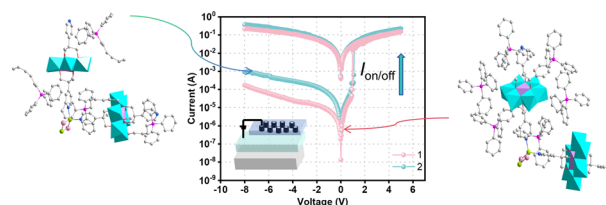


## COMMUNICATIONS

2535

### Regulating memristor performance of organic-inorganic hybrid polyoxometalates via counter cations

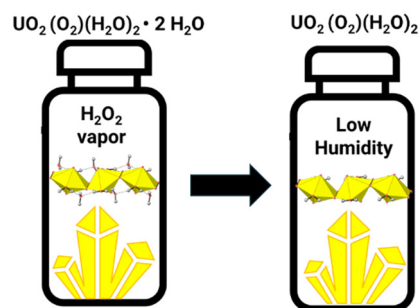
Hui-Xue Lei, Ze-Xun Zhang, Xin-Xiong Li, Qiao-Huang Wei,\* Hao-Hong Li\* and Shou-Tian Zheng\*



2542

### Single crystal growth and structural characterization of synthetic U(VI) peroxide phases, studtite (UO<sub>2</sub>(O<sub>2</sub>)(H<sub>2</sub>O)<sub>2</sub>·2H<sub>2</sub>O) and metastudtite (UO<sub>2</sub>(O<sub>2</sub>)(H<sub>2</sub>O)<sub>2</sub>)

Grant C. Benthin, Cameron J. Flester and Tori Z. Forbes\*

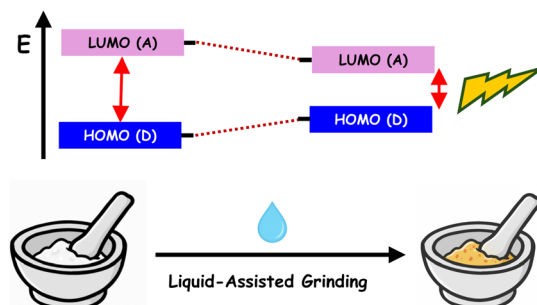


## PAPERS

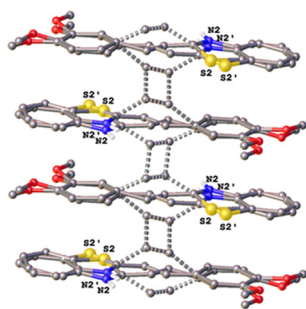
2548

### Modulating some photophysical properties of cocrystals

Aloka A. Marasinghe, Boris B. Averkiev and Christer B. Aakeröy\*



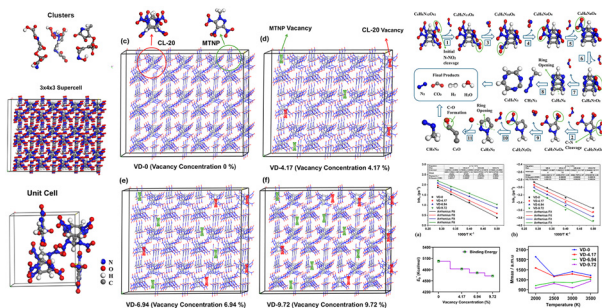
2560



## Study of the influence of anion nature on crystal packing features and feasibility of [2 + 2] photocycloaddition reaction in protonated forms of dimethoxystyryl heterocycles

Lyudmila G. Kuz'mina,\* Artem I. Vedernikov, Sergey K. Sazonov, Nadezhda A. Aleksandrova, Michael V. Alfimov and Sergey P. Gromov\*

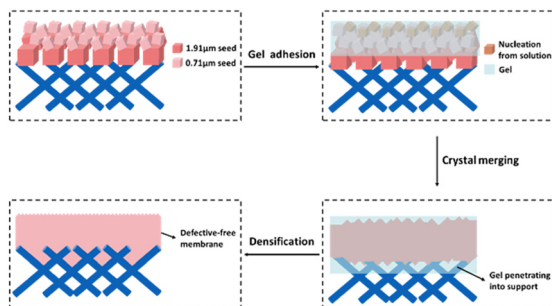
2578



## Effects of vacancy defects on the structural stability and thermal decomposition of CL-20/MTNP cocrystals: a reactive molecular dynamic study

Umair Afzal, Mengyun Mei and Weihua Zhu\*

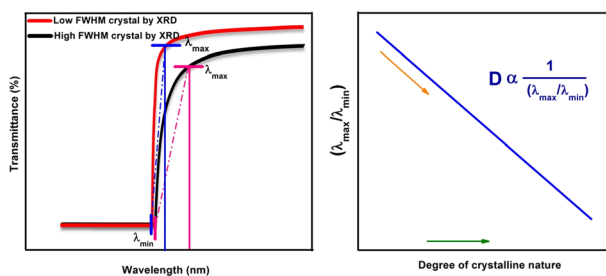
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## Synthesis of NaA zeolite membranes with high water flux on macroporous $\text{Si}_3\text{N}_4$

Chaochen Zou, Yongfeng Xia, Dongxu Yao, Ming Zhu, Jun Zhao, Rui Yao\* and Yu-Ping Zeng\*

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## Interrelation between the exponential absorption-optical band width and degree of crystalline perfection in nonlinear optical bulk single-crystals

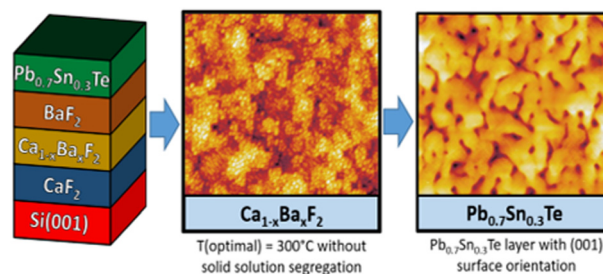
Sivakumar Aswathappa, Lidong Dai,\* Sahaya Jude Dhas Sathiyadhas, Raju Suresh Kumar, Abdulrahman I. Almansour and Magesh Murugesan



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### Temperature dependent phase segregation and morphology evolution in $\text{Ca}_{1-x}\text{Ba}_x\text{F}_2$ solid solution grown on Si(001) with an epitaxial $\text{CaF}_2$ sublayer

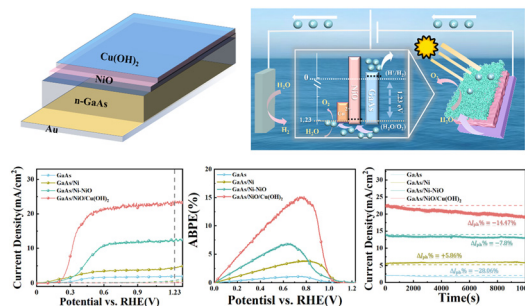
A. K. Kaveev,\* E. A. Alexeev, E. I. Belyakova, Sh. A. Yusupova and D. V. Miniv



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### Synergistic optimization of surface reconstruction and active site construction: $\text{GaAs}/\text{NiO}/\text{Cu}(\text{OH})_2$ for photoelectrochemical water splitting

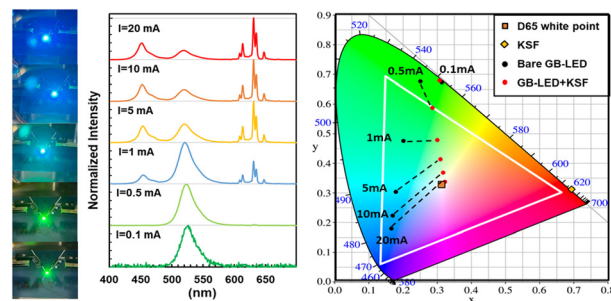
Yanling Wang, JunKun Wang, Wentao Qu, Jiehui Liang, Shaohua Xie, Xiangrong Li, Dongman Hou,\* Wenliang Wang\* and Guoqiang Li\*



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### Highly efficient dual-wavelength InGaN-based light-emitting diodes for a 107% NTSC color gamut display backlight module

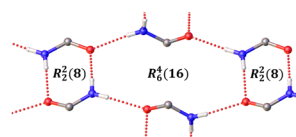
You-Jia Chen, Hao Lee, Li-Sheng Hu, Huai-Chin Huang, Hsing-Ting Hung, Chuang-Yu Hsieh, Tien-Chang Lu, Yuh-Renn Wu and Chia-Yen Huang\*



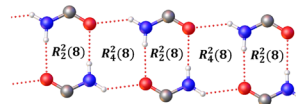
2648

### Structural determinants of H-bonded layer and ribbon formation in crystals of $\alpha$ -, $\beta$ -, and $\gamma$ -substituted primary amides

Arcadius V. Krivoshein,\* Marina S. Fonari, Boris B. Averkiev, Victor N. Khrustalev, Victoria Sena and Tatiana V. Timofeeva\*



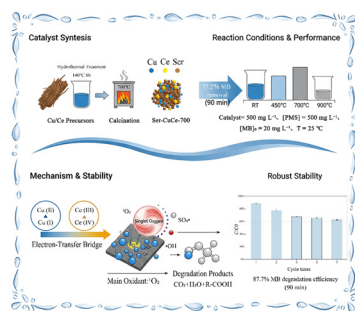
compact substituents favor 2D layer



bulky substituents favor 1D ribbon



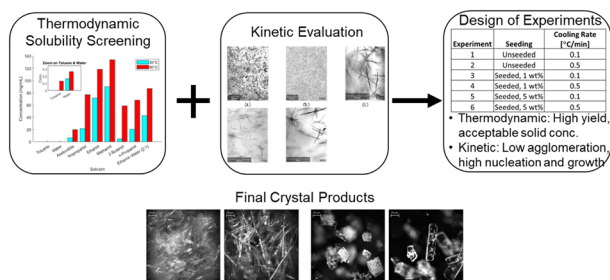
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## Low-cost chrysotile-supported Cu–Ce bimetallic catalyst for efficient peroxymonosulfate activation: singlet oxygen-driven dye degradation

Xuekun Tang, Jiawei Huang, Wei Li, Zhenfeng Zhou, Youwei Yang\* and Zishuai Liu

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## A kinetically informed thermodynamic (KIT) design framework for understanding the crystallization characteristics of resveratrol

Monika Neal, Álmos Orosz, Rekha Rao and Zoltan K. Nagy\*

